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Saturnino M. Borras Jr., Jennifer C. Franco,
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Saturnino M. Borras Jr., Jennifer C. Franco, Ryan Isakson, Les Levidow and Pietje Vervest²

THE EMERGENCE OF FLEX CROPS AND COMMODITIES

Contemporary agrarian transformations are shaping and being shaped globally by a complex and dynamic mix of interests and concerns around food security, energy/fuel security, climate change mitigation, the recent global financial crisis, and rising demand for natural resources and commodities from traditional hubs of capital (primarily North Atlantic), but also increasingly from the BRICS countries and some middle income countries (MICs), which represent emerging centres of international capital.³

One notable, yet still underexplored dimension of the current era is the rise of “flex” crops and commodities: crops and commodities that have multiple uses (food, feed, fuel, industrial material) that can be, or are thought to be, flexibly inter-changed. These include, but are not limited to soya (feed, food, biodiesel), sugarcane (food, ethanol), oil palm (food, biodiesel, commercial/industrial uses) and corn (food, feed, ethanol). These may be considered, to date, the most prominent and established “flex crops”, although others are appearing or have the potential to appear on the horizon, including cassava, coconut, beets, rape seeds and sunflower. Other commodities are starting to follow such a path too, for example, trees for timber, pulp, biomass, ethanol (from woodchips) and for carbon sequestration purposes.

Although still emerging, the rise of flex crops and commodities seems to address, or at least partially address, one of the most pressing and costly challenges facing agriculture: increasing price volatility in world markets. Flex crops seem to deal with this challenge by reducing uncertainty in a single crop sector through diversification of the product portfolio, thereby enabling investors to better anticipate and more nimbly react to changing prices in either direction—e.g., to better exploit price spikes or to better withstand price shocks.

With the emergence of (or speculation about) relevant markets and in some cases the development and availability of technology (e.g. flexible mills) that enable, or will potentially enable, maximization of multiple and flexible uses of these crops, diversification can be achieved within a single crop sector.

When sugarcane prices are high, sell sugarcane. When ethanol prices are high, sell ethanol—or at least this is what is generally assumed to be the idea driving flex crops. When the actual market for biodiesel is not there yet, sell palm oil for cooking oil, while waiting for (or speculating on) a more lucrative biodiesel market that has yet to emerge. Or at least sell palm while wishing for a more profitable scenario to happen, perhaps building a storyline about this projected scenario to jump-start some business undertaking, e.g. to raise investments, lure investors, entice governments, persuade affected communities and orchestrate favourable media attention to achieve some of these requirements. In a sense, flexing means that product lines can be narrowed without compromising allocative efficiency.

This is taken further by reconceptualising agriculture as a source of biomass for a future bio-economy. The bio-economy agenda seeks extra flexibilities from mainly non-food biomass in global value chains. Biomass denotes renewable raw materials, which can be readily decomposed and recomposed in more profitable ways (Birch et al., 2010, Levidow et al., 2013). According to European Union (EU) lobby groups, the bio-economy is the “sustainable production and conversion of biomass into various food, health, fibre and industrial products and energy” (Becoteps, 2010). This means horizontally integrating several industries.

The agenda promotes flexibility of biomass feedstocks—their sources, types, conversion processes and end products. A central means of doing this would be an “integrated, diversified biorefinery—an integrated cluster of industries, using a variety of different technologies to produce chemicals, materials, biofuels and power from biomass raw materials” (Europabio, 2007). Strategies seek a competitive advantage for companies becoming “backward-integrated” into multiple feedstocks and flexibly converting them into multiple products. “The newly established value chain will have room for non-traditional partnerships: grain processors integrating forward, chemical companies integrating backwards and technology companies with access to key technologies, such as enzymes and microbial cell factories joining them” (World Economic Forum 2010: 20).

As envisaged in this agenda, future biorefineries would enable more flexible uses of current conventional crops. Some crops also are being redesigned for biorefineries, e.g.

for easier breakdown of cell walls or higher-value chemicals, whereby plants become “green factories” for producing new compounds (ETP “Plants for the Future” 2007). Alongside the interests of commodity traders to achieve a competitive advantage, R&D investors have strategic interests in intellectual property from GM crops and GM microbes producing enzymes for biomass conversion processes.

For developing flex crops and commodities, a future bio-economy has also become a major R&D agenda within the European Commission (EC). During 2007–13 its Framework Programme 7 allocated more than €60m to future biorefineries. In its current 7-year successor, Horizon 2020, the bio-economy agenda is extended, e.g. for “renewable oil crops as a source of bio-based products”, towards “broadening the range of suitable oil feedstock candidates with optimally-lowered resource inputs and developing economically viable and sustainable, eco-friendly and bio-based products”. Going beyond imagined flexing (as above), future bio-economy visions mobilise investment and policy support to help realise such a future. This agenda serves as an economic imaginary, portraying private interests as a common societal interest (Levidow et al., 2013).

THE IMPORTANCE OF UNDERSTANDING AND STUDYING FLEX CROPS AND COMMODITIES

Profound changes in the agrarian world can be seen from various perspectives, including the changing food regime and enclosures (McMichael 2012), environmentalism and enclosures—or “green grabbing” (Fairhead, Leach and Scoones 2012), financialization of agriculture and the food system (Isakson 2014, Fairbairn 2014, Clapp 2014), the politics and political economy of the rise of biofuels (Franco et al. 2010; Borras, McMichael and Scoones 2010), and water grabbing (Franco et al. 2013, Mehta et al. 2012). Each of these perspectives offers new and important ways of looking at the profound restructuring of the world’s agriculture. The production, circulation and consumption of some crops and commodities—and the links between them—are being recast.

There is nothing new about the fact that most crops and commodities have multiple uses. For example, coconut is produced by small-scale farmers for household consumption as food, alcohol brew, and as feed for farm animals. But what we are pointing out and would like to explore more deeply here is the phenomenon of the global commercial expansion of flex crops along the lines of the very specific purposes provoked by the current convergence of multiple crises. Climate change, peak oil, the current level of meatification of diets, unprecedented expansion of the global transportation sector, and the phenomenal rise of the BRICS and MICs, are

all very significant contextual changes—and are all relatively recent. Altogether they comprise the defining features of the current generation of flex crops and commodities. Thus, for example, the first generation of sugarcane ethanol (e.g. Brazil and Germany in the 1970s) was triggered by the early 1970s oil crisis due to the OPEC embargo. On the other hand, the current generation of ethanol is largely, though not solely, triggered by climate change mitigation strategies and/or a realisation of peak oil, two narratives that were not in place in the 1970s. But to what extent this contemporary reconfiguration of new, multiple and flexible crop uses is occurring remains to be researched empirically.

Deploying a conventional framing in our research, public action and policy advocacy only somewhat address the above flex issues and so may be ineffective. Sweeping statements about the relationship between the rise of the biofuel complex and the aggressive expansion of oil palm plantations worldwide only partly explain this expansion. While there is much policy justification on palm oil expansion built around the biofuel narrative, non-biofuel products from palm oil plantations remain more important in quantity and value in the world’s leading producer countries (namely, Indonesia and Malaysia) or in a start-up country such as Colombia or Guatemala—at least for the time being. A narrow focus on the biofuel-plantation link weakens policy analysis and public action. Capping importation of biofuels into the EU or imposing environmental and labour standards, in order to minimize plantation expansion and prevent dispossession and displacement of people elsewhere, may only lead to selling palm oil more as non-biofuel products like cooking oil to China, India and Pakistan—as is currently so for Indonesian palm oil (Borras and Franco 2011). Looking at the livestock sector in China in the context of the soya complex is useful but incomplete. Likewise looking at trees and forests solely for their conventional use for paper, while blind to the rising speculation on new or anticipated markets for biomass and ethanol as well as for carbon credits (Kroger 2014) misses a key part of the picture.

Understanding the changing power configuration of transnational companies (TNCs) in the context of their conventional sectors, e.g. oil and car companies or fossil fuels, remains important, but has become increasingly insufficient in today’s context where TNCs seem to be increasingly interested and engaged in flex crops and commodities. For example, Volkswagen and Shell have become increasingly interested in biofuels. Unilever has a long-standing interest in palm oil for food and other cosmetic products and is increasingly interested in the biofuel policy debate and investment—but from a different perspective. The global rush to various biofuel feedstocks that are among the crops for Unilever’s main business interests, e.g. palm and coconut oil, may be threatening the company’s corporate interests because of actual or potential competition from other buyers of biofuels. This may be a likely reason why Unilever emerged as one of the critical voices against biofuels, at least against the first generation

feedstocks, and among the advocates of next generation biofuels that avoid food-competing feedstocks. Moreover, examining (inter)national regulatory institutions, instruments and principles based on a traditional sectoral approach, which analyses food, fuel, feed, and others in regulatory “silos”, will remain relevant but has been rendered largely insufficient with the rising popularity of flex crops and commodities. How does one regulate palm oil, which has multiple and flexible uses? Should it be a concern for the food, fuel or industrial sector?

The current massive expansion of the oil palm sector worldwide is indeed premised on the rise of the biofuels complex. Our hunch is that this expansion is actually correlated to *the rise of multiple uses* of palm oil, largely induced by the convergence of multiple crises and the various responses to it. It is most likely that there are several, not singular, reasons why the oil palm sector has dramatically ballooned recently. These include: the rise of biofuels; dramatic demands for cooking oil and other vegetable oil-based food and non-food products that have witnessed a dramatic spike in demand from newer middle class enclaves worldwide; and the need for newer, more lucrative and safer investment sectors for finance capital. Altogether these are the likely reasons for the rise of palm oil as a mighty, popular vegetable oil. It is, in part, a direct outcome of the global restructuring of agri-food production, circulation and consumption, and the regulatory institutions and processes in these interconnected spheres.

Whether or not crop uses can be switched and can be switched easily, the feasibility and degree of flexibility is another matter, and is the more complex and challenging dimension of this phenomenon. The multiple-ness and flexible-ness of some key crops and commodities have rendered the political economy of particular crops more complex to research. In turn, it has rendered social movements’ political advocacy work around particular crops more complicated. But simplification of an increasingly complex issue—by continuing to deploy conventional concepts and analytical lenses—in terms of academic research and political advocacy work is increasingly becoming problematic. The challenge is how to understand these transformations and dynamics, and how to research them in order to better inform public actions and policy advocacy work by state and civil society organizations.

THE DUAL CONCEPTS OF “MULTIPLE-NESS” AND “FLEXIBLE-NESS”

There are two dimensions of these crops and commodities that are very similar and overlapping but are distinct from each other. The distinctness of and the interaction between these two dimensions are crucial to our understanding of flex crops. These dimensions are the “multiple-ness” and “flexible-ness” of crop and commodity uses.

The “multiple-ness” of crop and commodity uses

Most of these crops and commodities potentially have multiple uses. Many of these crops have *actual* multiple uses. Coconut, for example, has always been referred to in the Philippines as the “tree of life” because every part of the coconut tree and the coconut itself has an important use and commercial value. Producing alcohol from most of the popular ethanol feedstocks today, such as sugarcane, cassava and corn, has always been part of a long tradition of villagers producing their own alcohol and fuel from these crops. Of the current popular feedstocks for biodiesel perhaps only *jatropha* does not have the chemical potential for multiple uses because it is toxic to animals and human beings. Arguably, one of the principal reasons for the rather quick boom and bust cycle of *jatropha*, despite massive hype,⁴ is that it is not materially conducive to multiple uses.

While there is nothing particularly novel about crops having multiple uses, the contemporary agricultural restructuring explained above has resulted in the emergence of new additional uses that previously were not thought to be possible—at least technologically and commercially. Dating back a couple of decades or so, soya has been a relatively recent boom crop that is associated with the rise of the global meat complex (Weis 2013). The soya oil by-product may have seen increased market demand with the expansion of the vegetable oil market worldwide, including in China. The most recent commercially significant by-product for soya is perhaps biodiesel. Sugarcane has multiple food-oriented uses, and is also famous for jump-starting modern day bioethanol in the 1970s. Corn is a classic crop with multiple uses: sweetener, livestock feed and ethanol. Palm oil has been a popular vegetable oil for cooking and other foodstuffs. But by-products from producing palm oil—palm kernel cake, palm oil sludge and palm pressed fibre—are increasingly important commercial animal feedstuffs, and so as biodiesel from palm oil. Coconut’s latest important commercial product lines come from coco coir. In light of climate change mitigation strategies, coco coir has become a popular commodity for soil conditioning, soil erosion control and slope stabilization, in addition to cocowater (for health issues), and biodiesel (cocodiesel).

There are *new* aspects of the emerging contemporary uses of these crops and commodities. First is the orientation of emerging uses that are associated with issues linked to newer political economy related to changing dietary preferences, especially the growing preference for animal protein and animal products, and public health concerns, as well as socio-ecological narratives around climate change, which spur a search for renewable resources and energy. Second, the sources of demands for these commodities are more diffuse and global, rather than just being concentrated in a particular hemispheric corner or particular consuming social class—although the demands from the BRICS and MICs are remarkable. For example the dramatic increases in the production output of livestock products and sugarcane ethanol in Brazil were matched by

dramatic increases of consumption of these products domestically (Wilkinson and Herrera 2010). Third, the quantity of demands for these commodities globally, in absolute terms, has witnessed dramatic increases during the past decade or so.

Quantitative indicators in terms of area harvested, production, trade and value are important measurements. They tell us about current conditions and trends in a particular crop sector. This set of quantitative measurements remains important in understanding the rise of flex crops and commodities. However, it has inherent limitations in capturing emerging, dynamic and fluid political economic conjunctures around these crop and commodity sectors. If we base our analysis solely on what percentage of palm oil production actually went to biodiesel production and consumption, we will be able to capture the actually existing quantity of traded biodiesel output (and its monetary value)—but not the indirect but quite crucial link between biodiesel and the expansion of oil palm plantations worldwide. It is quite probable that policy narratives and trade talks about biofuels were enough to convince national governments and corporate investors to push for massive expansion of the sector, even though there is not yet a fully developed biodiesel market. Their actions might have been principally inspired by the thought of a lucrative biodiesel market worldwide and they can afford to wait for that market to grow in the near future because in meantime they can sell their palm oil in various commodity forms: cooking oil, cosmetic material and other commercial-industrial commodities. Thus, if we quantify the percentage of palm oil that already went to the biodiesel market, it is most likely not as much as the projected biofuel market. This is the case in Indonesia where most of palm oil is still traded for other purposes besides biodiesel. However, all these conjectures are based on “informed guess work” on our side. These issues require systematic empirical research.

Hence, the emergence of a new type of multiple-ness of crop and commodity uses also necessarily alters the way we research the political economy of these crops and commodities and the manner we carry out our policy advocacy. We cannot rely solely on quantitative measurements of these products to examine political economic trends and meanings. This forces us to look more deeply and carefully into the political economy of these crops, along the four fundamental questions outlined by Henry Bernstein (2010): Who owns what? Who does what? Who gets what? What do they do with the wealth created?

Altogether what this shows is that the multiple-ness of crop and commodity uses are both old *and* new, and the significance of this recent development cannot be taken for granted. The character, extent and trajectory of, as well as the demand for these new types of multiple uses, linked to the old uses of these crops and commodities, may have resulted, or may result, in important changes in the patterns of production, circulation and consumption of these products, and that of others—and in how we understand these transformations. For one, it has altered old and created new routes of commodity

circulation and sites of consumption. It has also drawn a much wider array of gatekeepers into the process of commodity circulation such as food, energy, fuel, biotechnology, car and livestock companies, among others (Franco et al. 2010), including finance capital such as investment banks, hedge funds, and so on (Fairbairn 2014, Isakson 2014, Clapp 2014).

The new-ness of some additional uses of these crops and commodities is not the end of the story. In some instances, it might only be the beginning because it brings us to the related concept of “flexible-ness”. We now turn to this issue.

The “flexible-ness” of crop and commodity uses

A crop with multiple uses is quite valuable; a crop with multiple *flexible* uses is even more so. If a crop or commodity use can be switched from one specific purpose to another with technical ease and with attractive economic return, then it is not difficult to imagine the important transformation of such a crop or commodity and the far-reaching political economic implications when its multiple-ness meets flexible-ness.

Obviously for a crop to become a flex crop should have *at least* two main uses; the more uses it has the more room there might be for flexing. Crops with a single principal use are less attractive in the contemporary context, unless the agronomic, technical and economic conditions for producing such a crop outweigh the conventional risks associated with a single crop–single use/commodity. As we briefly mentioned above, in our view, this is one of the reasons for the hype and the quick boom–bust cycle of jatropha. There are no known major commodity products or uses for jatropha other than biodiesel. But crops with multiple uses do not automatically have sufficient basis for flexibility. In our initial estimate, there are at least three minimum conditions for crops and commodities with multiple uses to become flex crops, namely, material basis, technological possibilities and profit viability.

First is the *material basis*. There are some feedstocks for next generation, non-food-based biofuels that are being developed for single use: grass, algae, jatropha, among others. There are multiple uses that are not switchable because of the chemical and physical constitution of products. A soya meal or a copra meal or a palm kernel cake has few other uses except as animal feed principally and food consumption secondarily. But soya oil, corn oil, coconut oil, and palm oil have multiple uses—and these semi-processed products can be flexibly used—at least in terms of their chemical constitution. For example, coconut oil can either be used as cooking oil or cocodiesel. Indeed, there are many crops and commodities that have the material basis for multiple flexible uses: sugarcane, palm oil, soya, corn, coconut, cassava, sugar beets, sunflower, rapeseeds, castor and wood chips. Some have more multiple uses than others, and thus have better prospects for multiple flexible uses. Compare palm oil with castor for example.

Two related issues are of relevance. On the one hand, there are crops and commodities that have by-products that can easily be developed into important commodities in the current changed context. This is the case of soya where due to the current global political economy of livestock, the main product is soya meal, while soya oil has become the by-product. But this oil can be directed towards food uses or it can also be transformed into biodiesel. It is the reverse for coconut: the oil is the main product (for food and biodiesel uses) and the copra meal is the by-product (for animal feed). There is a better potential for multiple flexible uses in crops with important by-products. On the other hand, as agribusiness continues to develop technology towards more efficient crop and commodity production, it is likely to lead towards the emergence of crops and commodities with less—not more—multiple uses. At least this is the case of hybrid corn that is meant not for human consumption but for animal feed, in addition to being a feedstock for ethanol. Whether this will happen in other crops is something to watch out for. In our calculation, when this happens, the possibility for multiple flexible uses is reduced, but not completely eliminated.

Second is the *technological possibility*. One of the reasons why jatropha was quite popular initially was the fact that the technological requirement to transform farm gate produce into oil is inexpensive and easily installed even at the household level. The seeds can be pressed easily for immediate use. Different crops and commodities have varying technological possibilities. Ethanol plants are generally more complex than biodiesel ones. Among ethanol feedstock, sugarcane and corn require quite complex processing plants (Wilkinson and Herrera 2010, Gillon 2010). Crops like coconut and palm oil on the other hand present relatively less of a challenge. Technological capacity allows for the possibility and/or ease of crop and commodity flexing. But variation between countries regarding the current conditions for key crops and commodities in terms of technological possibility is one of the key empirical questions that need to be researched.

Third is *profit viability*. Even when a crop has the material basis and the technological capacity is possible and/or available, flexing may not happen if it makes no business sense or if the technology is simply unaffordable. This is a concern in some ethanol sectors where updated food–ethanol flexible plants can have very prohibitive costs, such as those in the sugarcane and corn sectors. Meanwhile, where a cheap substitute commodity exists, it will also render flexing for a crop infeasible. For example, palm oil and coconut are comparable crops in terms of multiple uses and potential for flexing, but palm oil remains generally cheaper than coconut, partly explaining the popularity of palm oil and not of coconut.

Our hunch is that where all three key requirements—material basis, technological capacity and profit viability—are available in favourable ways, the chances for flexing are high. This has to be validated empirically, of course. But in our initial analysis, these three minimum conditions do not operate in a political

vacuum. They are shaped in the political economic context of contestations around property, development and control of technology, how a labour regime is shaped, and how political power is exercised in society. Class formation and dynamics in society will influence whether these minimum conditions occur, and, if they do, how. State policies also play a critical role in determining whether these three minimum conditions are met, including public investment in R&D, agricultural subsidies and trade policies. However, there are cases where there is potential for crop use switching, but for some socio-economic and political reasons actual flexing may not occur or may become publicly unpopular especially if it comes up against a polarized food-versus-fuel dilemma. This is the case of corn, at least at some point a few years ago. Alternatively there might be cases where switching uses occurs despite non-viable economic terms, as partly demonstrated in the debates about the efficiency of US corn ethanol (Gillon 2010).

In short, multiple uses do not necessarily lead to flexible uses. Our sense is that the expanding uses of certain crops and commodities influence and transform their patterns of production, circulation and consumption. In cases where flexing is possible and desirable, the popularity of relevant crops and commodities may increase dramatically. Whether this actually happens is highly dependent upon finance capital's willingness to gamble on said commodities. In the contemporary era of financialization, the unique qualities of flex crops may make them a particularly enticing sponge for investors who are awash with surplus funds. We now turn to this topic.

FINANCIALIZATION AND THE RISE OF FLEX CROPS

Interlinked with the contemporary food, fuel and economic crises, financialization is among the various processes that have likely contributed to the rise of flex crops and commodities. In general terms, financialization refers to the growing importance of financial motives, actors and markets in the operations of economies and their governing institutions (Epstein 2005). It is often understood as a recurring feature of capitalism, wherein profits increasingly derive from speculative activities rather than the trade and production of actual commodities (Arrighi 1994, Krippner 2011). The most recent phase of financialization emerged as a response to a crisis of overaccumulation in the 1970s. Faced with insufficient demand for their products and declining profits, US and European enterprises redirected their surplus capital from productive activities to financial markets (Arrighi 1994, Harvey 2010). Finance capital has sought refuge in various activities in the subsequent decades—including technology stocks, foreign currency and housing—producing a series of speculative bubbles. Most recently, it has targeted the food and agricultural

sector, speculating on activities all along the agro-food supply chain (Isakson 2014). This section considers how the financialization of food and agriculture has shaped and been shaped by the production of flex crops. Our argument is that the multiple uses of flex crops have the potential to mitigate risk on investments while maximizing returns, thereby rendering them a particularly attractive target for financial speculation.

Among the various financialization-induced changes to agro-food provisioning, the impacts upon commodity prices have received the most attention. Flex crops play an important role in this story. The prices for several emblematic flex crops—including palm oil, maize, soya, sugar, timber and coconut oil—have increased dramatically since the onset of the contemporary financial crisis in 2006. In real terms, prices for these crops remain at or near thirty-year record highs.⁵ These increases are likely both the cause and result of financialization. As several scholars have documented, the recent spikes in—and subsequent volatility of—agricultural commodity prices cannot be explained by underlying market fundamentals (Ghosh et al. 2012, Clapp 2009, 2014, Spratt 2013, Gilbert 2010). Instead, they point to the dramatic increase in speculative activity in commodity futures markets over the past decade. Whereas orthodox economic theory and the so-called “efficient markets hypothesis” suggest that conditions in the markets where actual commodities are traded will guide prices in futures markets (i.e. futures markets are accurate predictors of real world conditions), these scholars have documented a “contango” effect, wherein financial speculation in agricultural futures markets determines the prices of physical commodities in spot markets. The result is that speculative bubbles in futures markets have transmitted to actual spot market prices for a number of commodities, including prominent flex crops like maize and oil seeds (Pradhananga 2013, Gilbert 2010, Palm Oil HQ 2009). Of course, speculative exuberance has inflated the prices of a variety of commodities, not only flex crops. Nevertheless, as will be discussed below, the rising prices of flex crops have attracted financial interest in other arenas beyond futures markets. First, however, it is worth considering why financial capital might have a special interest in flex crops.

Financial capital may be particularly attracted to flex crops because their multi-functionality helps to negate the purported trade-off between risk and yield on investments. As noted earlier, investing in crops with diverse uses is akin to diversifying one’s portfolio. A single crop is demanded by markedly different sectors, thereby ensuring a minimum number of buyers and mitigating risk. In other words, the fact that flex crops can be sold in multiple markets ensures the liquidity of investments, or the ability to easily convert them to cash, making them particularly attractive to investors seeking a “flight to quality” during the economic downturn. In the contemporary context, the multiple-ness of flex crops not only helps to ensure a minimum demand from a given sector, but oftentimes promises a growing overall market demand and, correspondingly, a rising price. More than having many uses, prominent

flex crops like maize, oil palm, soybeans, trees and sugar are each posited as a *solution* to a number of crises—food, energy, climate—that afflict contemporary society. Whether real or imagined, the idea that a particular flex crop is a silver bullet that can solve such vexing problems feeds the notion of spectacular and sustained yields. Consider a recent article in *Moneyweek* entitled, “Palm oil is set to boom: you should buy in now” (Stevenson 2012). Palm oil “has a wide—and growing—variety of uses, both food and industrial”, the author observes. “And”, he continues, “it could be about to surge in price”. He implies that strong demand from the food and industrial sectors renders oil palm a safe investment while growing demand for alternative fuels promises spectacular returns in the short-run and a “longer-term bull market” (Stevenson 2012).

As the author from the *Moneyweek* article observes, there are multiple ways that investors can speculate on flex crops. While they can “dabble in the futures market”, he encourages buying shares in plantations where there is a possibility of capturing value from multiple stages of the value chain (Stevenson 2012). A cursory investigation suggests that there are plenty of opportunities for investors to buy into flex crop enterprises. The funds raised through such initiatives seem primarily intended to acquire farmland and, importantly, to invest in the mills and refineries that could potentially enhance the enterprises’ ability to flex—or determine how a particular crop is utilized. Provisioning credit and insurance represents a third channel through which financiers can tap into the expanding flex crop sector.

The rise of flex crops cannot be disassociated from the “financialization of everyday life”, or the growing role of credit and debt in the social reproduction of agrarian households (Rankin 2013, Martin 2002). With the neo-liberal dismantling of the Keynesian welfare state and the consequent emergence of the contemporary “debtfare” state, rural development has increasingly been construed as financial inclusion (Soederberg 2012, 2013). States no longer play a key role in the provisioning of agricultural inputs, rural infrastructure or risk management. Instead, farmers who are now dependent upon modern technologies are expected to acquire them on credit. The role of the state and other development actors is to facilitate poor peoples’ access to loans (Soederberg 2013). Of course, credit/debt is a double-edged sword that can both empower and constrain borrowers. The conditions attached to loans, and more generally financial inclusion, can be used to discipline farmers, typically limiting their production to approved crops. Given the potential of flex crops to minimize risks while maximizing returns lenders are likely to structure farmers’ land-use practices accordingly. In Guatemala, for instance, the state and other actors have identified oil palm production as a catalyst for pro-poor development in the country’s impoverished northern lowlands. Small-scale farmers—at least those who have managed to retain their land (see Alonso-Fradejas 2013)—are encouraged through political, social and economic means, to take loans and cash advances to acquire the inputs

and technical knowledge for cultivating African palm that they subsequently sell to specified palm oil enterprises on a contract basis. The initiative has not only contributed to the dramatic expansion of oil palm production in the region, but also to small farmer debt (Guereña and Zepeda 2013).

The financialization of everyday life has also permeated the management of agricultural risk. Whereas agriculture has always been risky, the dangers have been accentuated by the environmental uncertainty associated with climate change (Ribot 2014) and volatile commodity markets (Ghosh 2010, Clapp 2009). In the absence of moral economies and state support, farmers are left to independently manage risks. For financiers, the rising uncertainty that has accompanied the privatization of agricultural risk represents a new avenue for speculation. They have promoted a variety of financial instruments that purportedly help farmers mitigate risk, including the increasingly prevalent instrument of micro-insurance aimed at small-scale producers.⁶ Yet, like credit, insurance is only offered for specified crops, namely those on which underwriters are willing to gamble. The ability to mitigate risk through flexing may mean that insurers are more partial to crops with multiple uses. In short, even as the financial sector profits from selling credit and insurance to farmers, they may also be pushing farmers to cultivate flex crops. Their ability to do so is augmented by the fact that many lenders require borrowing farmers to acquire crop insurance. This practice is particularly prevalent among micro-lenders who require borrowers to obtain policies from micro-insurers. This, however, is mostly speculation. The extent to which different forms of agrarian finance shape land-use practices and whether there is a bias for flex crops warrants further research.

REAL, ANTICIPATED OR IMAGINED: AN INITIAL TYPOLOGY OF CROP AND COMMODITY FLEXING

When the material basis, technological capacity and profitability are present, there are great possibilities for flexing. But there may also be some situations where either or both technological or profitability may not really be there, yet the idea of flexing is nevertheless invoked but for various purposes other than real crop and commodity flexing. Even where the three minimum conditions for flexing do not occur or are unobtainable, just conjuring the idea of flex crops and commodities is sufficient to trigger a real-world chain of events that can have far-reaching implications for agrarian transformation.

As we have mentioned above, we are interested in the politics of the actualization of the multiple commercial uses of crops and commodities as well as the possibility of flexing. For the purposes of this paper, by flexing we mean at least three broad

types, which are best analysed in their intersection with each other, rather than by approaching them separately like “silos”.

The first type is *real flexing*. By real flexing we mean that there is a material and logical basis for flexing and actual flexing occurs. For example, with the mandatory blending of 2 per cent for coco-diesel in the Philippines and a corresponding set of tax incentives for coco-diesel production and trade, a number of coconut oil millers and traders quickly filled in the blending requirement by shifting the final destination of their coconut oil from the traditional vegetable oil and other markets to the domestic coco-diesel market. The technological and investment requirements for flexing seem to be easily achieved (compared to the much larger requirement for building a sugarcane ethanol plant, for example). Within just a matter of three years, the millers and traders were lobbying to increase the mandatory blending cap to 5 per cent because of over-supply of domestic coco-diesel. This case represents a situation where it is relatively easy to switch the ultimate use of coconut oil. If and when sugar cane millers are able to control whether to crush their sugarcane for sweetener products or ethanol depending on price signals and/or subsidy/tax, real flexing can actually occur. This is the same in palm oil, canola, sunflower, sugar beets, corn or cassava.

Real flexing may be triggered by a series of related crop-use changes. For example, when canola oil that was predominantly used for food purposes was suddenly used to produce biodiesel, as in Germany—partly in order to produce biodiesel domestically—this shift left some market gaps where it was previously used in the food sector. This subsequent market gap could then be filled by imported palm oil. The two types of oil in this context then are tightly intertwined (Franco et al. 2010). In a way, these vegetable oils are “fungible”, in the way described by McMichael (2010). Meaning, you could have switched oils for both purposes, at least hypothetically speaking. The actual politics and economics of this are empirical matters that need to be investigated rather than assumed.

What we know at the moment based on initial, largely anecdotal evidence is that various crops and commodities are really being flexed. To what *extent* this actually occurs, *how* this actually happens and what *factors* encourage/discourage, facilitate or block real flexing from happening in one sector vs. another, or from one geographic setting to the next, are all empirical questions that ought to be investigated more carefully—and urgently.

The second type is *anticipated flexing*. What we mean by this is that there is no actual flexing that is happening, but there is significant anticipation of or speculation about such activities based on a clear material and logical basis. As explained earlier, deals for major investments, including large-scale land acquisitions and investment pledges are usually achieved on the basis of the dual ideas of multiple uses for crops and commodities and the possibility of flexing.

The Procana sugarcane ethanol company was able to secure 30,000 ha of land in southern Mozambique largely by projecting the rosy picture of multiple crop uses of sugarcane, including crop flexing for ethanol and other bioethanol-based commercial products such as “green plastics”. However, the first few years of operation of Procana saw only the production of conventional sweetener products, not ethanol. It had to close a few years after getting started, sometime in late 2011, having failed to mobilize sufficient investments in Europe. It was not able to build the much-vaunted Brazilian flexible sugarcane mills (Borras, Fig and Monsalve 2011). In the north of Mozambique an industrial tree plantation (largely pine) has gained ground.⁷ The investors are from Sweden, in alliance with the Dutch pension fund company, ABP. The motivation behind the investment is for the conventional timber and pulp. However, in both the narratives of the government and the investors, the ideas of biomass and wood chips for ethanol are being seriously floated as reasons why the investment will be lucrative. At the same time, the entire tree plantation is also thought to be developed and transformed into a REDD+ project site (FIAN 2012, see also Kroger 2014).

In these two Mozambican examples there has been no real flexing. But flexing was, and is, an important aspect of the government and corporate narrative. It has material basis, sounds logical, legitimate and convincing. It is an anticipated flexing. What these examples show however is that anticipated or speculated flexing—even before it is realized, if at all—can already have concrete and far-reaching impacts on the lives and livelihoods of real people. Ethanol was never produced in the Procana plantation, but the anticipation or speculation about such production nevertheless transformed pre-existing social structures and institutions in this part of Mozambique, even after Procana pulled out in late 2011. Woodchip-based ethanol was never produced from Niassa forests, and is unlikely to be produced. The REDD+ project is also unlikely to take place. Yet narratives about ethanol and REDD+ continue to provide logic, legitimization and traction for corporate investment.

In short, flexing does not have to be real and happening for it to have important impacts—and for it to be taken seriously. Its significance is felt even when it is just anticipated or speculated.

The third type is *imagined flexing*. By imagined flexing we mean flexing that is not real, not actually happening and has no material or logical basis, yet it is invoked for some reason. While it has elements similar to anticipated or speculated flexing, the key difference is that the latter has material, logical and legitimate basis for anticipation; imagined flexing does not have these elements.

An example is the case of big landed elites in the sugarcane sector in the central Philippines. Land reform in the Philippines has been on going since 1988, with a chequered history, but has delivered some partial success (Borras 2007). One of the remaining bastions of resistant big landlords is the

sugarcane sector where the hacienda system inherited from the colonial times has persisted into the twenty-first century. There are a number of legal loopholes in the land reform law that landlords persistently exploit to evade land redistribution (Franco 2012). One loophole protects “corporate farms” that are plantations run in a highly capitalized manner. Alternatively, other modalities of reform used to be allowed, such as a stock distribution option. When the National Biofuels Policy was passed in 2006, sugarcane producing landed elites immediately claimed that they were converting their haciendas into flexible operations, producing sugarcane sweeteners and ethanol, invoking the capital-intensive nature of ethanol mills as the basis for exempting their estates from the land reform. Some of them even invoked the noble idea of biofuel being part of the needed climate change mitigation strategies thus warranting support. A close examination of these landlords would likely show that they are incapable of such dramatic recapitalization and that a modernizing and entrepreneurial character is not a feature of conventional feudal sugarcane landlords in the central Philippines. Instead, landlords continue to avoid land reform and invoking an imagined flexing has been added to their repertoire of narratives.

Stepping back and looking at the big picture, it is not difficult to speculate that these three types of flexing can and do co-exist in a given place and time—in parallel with, contradicting or complementing, facilitating or undermining one another. It is highly political. The points of intersection between these various types, and their implications are critical areas for empirical investigation. The factors that encourage, discourage, facilitate or hinder flexing are not just chemical-physical and technological—they are very much political. To what extent these three types manifest in different settings and in various crop and commodity sectors is one of the unknowns that need to be researched more empirically, extensively and carefully.

RECASTING THE POLITICAL ECONOMY OF FLEX CROPS AND COMMODITIES

The political economy of flex crops and commodities—based on Bernstein’s four questions—is necessarily recast in several ways, eight of which are: (1) changed multiple sites and levels and increasingly long-distance interconnectedness; (2) new owners of capital and technology; (3) continuity and change in the organization of production and emerging labour regime; (4) new commodity producers and traders; (5) new range of consumers; (6) crop-use and land-use change; (7) the role of the state; and (8) the evolving role of international regulatory institutions. It is important to examine these in interrelated categories to understand the character, pace, scope, trajectory and implications more broadly of the rise of flex crops and commodities.

Changed multiple sites and levels and increasingly long-distance and complex interconnectedness. Although the specifics need empirical investigation, it is clear that the new aspects in the multiple-ness of crop and commodity uses have partly altered the sites and levels of production, circulation and consumption of these commodities and/or other key commodity routes. A good example is sugarcane ethanol where Rotterdam and Singapore (their ports and financial districts, to be specific) have become important transit points for this traded fuel, although their ultimate origin may likely be Brazil. The outflow of Indonesian palm oil is going to places that include China, India and the EU, but with different product lines and consumption contexts. In the EU palm oil partly filled the market gap for food use left by the conversion of rapeseed oil to biodiesel. There might also be an increasingly long-distance and complex interconnectedness between these sites of production, circulation and consumption. For example, Indonesian palm oil traded for food use in China is intertwined with the anticipated or imagined biodiesel market in the EU. These changed sites and character of interconnectedness have become important dimensions of the political economy of these crops and commodities.

Owners of capital and technology. The production of flex crops and commodities is generally capital intensive, although there remain significant variations. As mentioned earlier, perhaps ethanol plants for sugarcane and corn are the most expensive to build and operate. Key to maximizing the multiple flexible uses of these crops and commodities is the ownership and control of processing technologies. This is where non-agrarian elites come in. Perhaps most especially the industrial bourgeoisie and international/finance capital may work in alliance or competition with agrarian elite classes (recall our discussion earlier in the section on financialization). Depending on the history and pre-existing agrarian structures and institutions, this may erode—or reinforce—traditional landed classes in agrarian societies.

Organization of production and emerging labour regimes. The organization of production of these crops and commodities is marked by continuity and change. Traditional organization of production that has generally been based on monocultures and/or large-scale plantations in combination with strategic processing plants has generally remained the same in most of these sectors. However, we are also witnessing important varied tendencies: incorporation of small oil palm growers as suppliers of palm fruit through a variety of contracts, shrinking share of commercial family farms in the land area in the US Midwest, proliferation of land lease arrangements particularly in the sugarcane sector in Brazil and some variants of this in the soya sector of Argentina, namely, the “pools de siembra” (see McCarthy 2010, Gillon 2010, Fernandes et al. 2010, Murmis and Murmis 2012, respectively). While monocultures and the incorporation of processing technology and plants are quite common in contemporary organization of production, the rest can vary quite widely. Companies will explore various

modalities as long as they gain control of resources and profit. Thus, there is a significant incorporation of family farms in the emerging value chains, whose farm sizes can vary widely: from a three ha oil palm farm in Malaysia to a 3,000 ha corn farm Iowa. While monocultures and industrial large-scale plantations are generally labour-saving enterprises, some arrangements are labour-intensive, e.g sugarcane cutting work in Brazil, as well as oil palm plantations in Indonesia. This is not to say that the conditions and terms of incorporation are desirable, especially since the Brazilian sugarcane sector is infamous for the slave-like conditions faced by cane cutters. And observers argue that the optimistic estimates of the labour absorption capacity of the Indonesian oil palm sector are inflated (Li 2011). Nevertheless, relative to smallholder-based agriculture with little mechanization, industrial monocultures generally expel or save more labour than they absorb.

Commodity producers and traders. Commodity producers remain varied, ranging from large-scale industrial agribusiness companies to smallholder producers, and diverse other types in between. We see this in soya, sugarcane, oil palm, corn and even tree production. But most of the smallholder producers are subordinated to the larger agribusiness conglomerates that control the commodity chain. Traders are far more diverse, involving key players in sectors that were not previously engaged in agriculture, such as car and energy companies moving to food and biofuels, and likewise, some food companies diversifying into trading of fuel commodities.

Range of consumers. The new character of several crops and commodities necessarily expands the spread of their consumption, implicating a much wider range of actors. Brazilian sugarcane used to be largely linked to consumers outside that country through its sweetener products, but its expansion into ethanol production has multiplied the number of consumers of this crop. Palm oil has consistently had a very widespread reach in terms of consumption because of its inclusion as basic ingredient for a wide-range of products, from chocolates to shampoo to cooking oil. But this reach widened even more when it became one of the most popular biofuel feedstocks. Thus, long distance, de-personalized connections between the production sites on the one hand and the consumption sites and the social groups therein have become much more dense and far more complex—they connect far more people across societies.

Crop-use and land-use change. The rise of flex crops has complicated notions of land-use change. Early discussion among activists about biofuels tended to equate production of biofuels to land-use change. Indeed, there were, and are, farms that were dedicated to food that were converted to produce biofuel feedstock, triggering the earlier food-versus-fuel debate (see background discussion in Borras and Franco 2012). But the current situation is more complicated than this. It seems that a significant part of what is happening is more of a “crop-use change” than the conventional “land-use change”—but of

course the former is intimately linked to the latter. Changing the use of a crop means changing the use of the land as well, since it changes the ultimate purpose of cultivating the land even though the particular plants on the land may not change.

However, it is useful to analytically separate the two concepts. When much of the corn harvest from the US Midwest was converted from feed and food products to ethanol, farmers continued to cultivate the same high-yielding varieties. When Indonesian palm oil that was previously produced for cooking oil was instead used as biodiesel, it did not require any change in the plantation. There are similar stories for sugarcane, coconut, soya, sunflower, cassava and others. The notion of “crop-use change” can better capture this aspect of the rise of flex crops and commodities, rather than the conventional notion of land-use change. Still, this has resulted from the rise of flex crops being harvested on more land, thus understanding land-use change is also still important.

As above, when US corn cultivation was increased and shifted to ethanol production, US soya cultivation fell and Brazilian soya cultivation rose to fill the gap. In this way, crop-use changes created a market gap and thus stimulated land-use change elsewhere. Often this means land clearing for crop monocultures, which causes more social and environmental harm than a change from one crop to another. This indirect land-use change (ILUC) has become the focus of advocacy campaigns against biofuel expansion. And similar harm may likewise result from other changes like shifting crops or land to animal feed.

The role of the state. Institutional factors also facilitate, hinder, encourage or discourage key actors in exploiting the potential multiple-ness and flexible-ness of these crops and commodities. Some options are framed and pushed strategically by the state, e.g. by creating a favourable investment climate, land laws, trade policies and agreements, biofuels mandatory blending laws, climate change mitigation strategies, taxation, labour laws, foreign ownership laws or subsidies. These are among some of the main variables that facilitate or block the efforts of key actors to harness the potential multiple-ness and flexible-ness of crops and commodities. In addition, the global land rush that has accompanied the rise of flex crops and commodities could not have proceeded smoothly, effectively and widely without the central and critical role played by the state in terms of legal and political justification, definition, quantification, identification, appropriation and disposition of lands needed by investors that are legally claimed by the state. This is especially so because investors mainly target public/state lands precisely because they can be acquired at low cost and deals can be facilitated relatively easily by the state as a willing partner. Hence, despite the neoliberal call for the retreat of the state, the latter seems to be called back to carry out institutional reforms to harness the potential of flex crops and commodities in capital accumulation. (see Wolford et al. 2013).

International regulatory institutions. There are multiple regulatory institutions, instruments and principles that have evolved alongside the expansion of the production and consumption of some crops and commodities. These global governance instruments range from obligatory governmental instruments or principles such as human rights instruments and the free, prior, informed consent (FPIC) to voluntary codes of conduct under the umbrella of corporate social responsibility (see Margulis et al. 2013 for a comprehensive analytical background). In the latter especially, we have witnessed the proliferation of sectoral voluntary standards, including the Roundtable for Sustainable Palm Oil (RSPO), the Roundtable for Sustainable Biofuels (RSB) and the Roundtable for Sustainable Soya (RSS), among others. In addition to FPIC, probably the most popular of governmental instruments is the Voluntary Guidelines for the Responsible Governance of Tenure of Land, Fisheries and Forests (TGs), popularly perceived by civil society organizations as an instrument that is closer to an obligatory type than a voluntary one despite the label. The challenge for researchers, social movement activists and policy experts is to understand the ways in, and the extent to, which the rise of flex crops and commodities—and the corresponding dynamic and fluid commodity flows across sites of production, circulation and consumption—might undermine the efficacy of a sectoral approach to governance, because of the far more interlocking multi-sectoral nature of the phenomenon.

IMPLICATIONS FOR FUTURE RESEARCH AND (TRANS)NATIONAL SOCIAL MOVEMENTS' POLICY ADVOCACY AND CAMPAIGNS

The multiple-ness and flexible-ness of particular crops and commodities are crucial concepts for our understanding of the emerging politics around key crops and commodities in the changing global agrarian context. We still have little empirical knowledge about this matter. We know just enough to make us confident that this is something worth further empirical investigation, further theorizing and jump-starting political debates.

In terms of research, there are challenging big questions that can direct future studies, including the following: What are the material bases for, and policy narratives underpinning the new multiple uses and multiple flexible uses of which crops and commodities? What is the actual configuration of the political economic requirement for flexing, namely, material basis, available technology and profit viability of key crops and commodities, including sugarcane, soya, palm oil, corn, sunflower, cassava, sugar beet, coconut and fast growing trees? What is the actual extent of crop and commodity flexing in each of

these sectors? How does flexing actually happen? Who are the key players who decide how to read signals for flexing and when, where and how to flex? What real-life changes (in resource property control, land and water use, production systems and so on) result from anticipated and/or imagined flexing in key crops and commodities? Who are the key players involved in anticipated and/or imagined flexing? When, where and how do they deploy these types of strategies? Who are the old and new corporate, financial and state actors involved in the emerging complex of flex crops and commodities, and why and how did they decide to engage in this new complex? Is finance capital biased towards particular flex crops? If so, why, and how does this bias (re)shape agrarian structures and land-use practices? How are the working classes—located in the sites of production, circulation and consumption of flex crops and commodities, rural and urban, in southern and northern countries—impacted positively and/or negatively by this emerging phenomenon? What is the role of the state in facilitating the rise of flex crops and commodities—especially in facilitating the more flexible use of non-food biomass?

There are equally challenging questions for activists, including the following: What are the implications of the rise of a global flex crop complex for the way we frame (trans) national social movement campaigns for policy reforms? This is an important question because conventional sectoral campaigning has become relatively weak and problematic.

The multiple-ness and flexible-ness of key crops and commodities are only somewhat addressed by campaigning against palm oil framed within an anti-biofuels campaign, or campaigning against soya in the context of livestock sector, or campaigning against biofuels by implicating popular feed-stocks such as sugarcane, palm oil and soya, and so on.⁸

The rise of flex crops has validated even more the relevance and importance of transnational social movements that can connect national movements across borders. But are transnational social movements (agrarian, food, environmental, labour and human rights movements) able to adjust their issue analysis and demand-making to capture the changing and fluid nature of flex crops, and if so, how, to what extent and is it effective?

These are some of the initial challenging questions that engaged researchers and activists have to grapple with. There are no ready and clear answers. But the first necessary step is to carry out empirical research involving engaged academics and social movement activists who can break through the silos of agricultural sectors and academic disciplines—towards a more multi-sectoral, inter-disciplinary collaborative action-research by academic-activists around this issue. We do not want to simply (re)interpret the world in various ways, but also to change it in favour of the exploited classes and social groups.

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Endnotes

- 1 In mid-2014, TNI started the [Think Piece Series on Flex Crops & Commodities](#). There are about six or seven pre-identified and invited papers to jump-start this series. But we envision this series to become an open platform and venue for brainstorming and discussion by activists and engaged academics towards a better understanding of the concept and phenomenon of flex crops and commodities. We therefore hope that the series will continue beyond the first few papers we have. For anyone interested in submitting a paper for this series, please get in touch with any member of the TNI Agrarian Justice Program. This is a peer reviewed think piece series.
- 2 Borras is a TNI Fellow and teaches at the International Institute of Social Studies (ISS) in The Hague. Franco is the Coordinator of TNI's Agrarian Justice Program. Borras and Franco are Adjunct Professors at China Agricultural University in Beijing. Isakson is an Assistant Professor at the University of Toronto. Levidow is a Senior Research Fellow at the Open University, UK. Vervest is Coordinator of the Economic Justice Program of TNI. We would like to thank the participants in the flex crops workshop organized by TNI in January 2014 in ISS in The Hague for their critical and useful comments on an earlier incomplete version of this paper.
- 3 The conceptual discussion draws from the very initial and highly abbreviated exploration of the notion of flex crops in Borras, Franco, Gomez, Kay and Spoor, 2012, *Journal of Peasant Studies*, 40(3-4).
- 4 See, for example, McCarthy et al. (2012).
- 5 Source: World Bank Global Economic Monitor – Commodities [http://databank.worldbank.org/data/views/variableselection/selectvariables.aspx?source=Global-Economic-Monitor-\(GEM\)-Commodities](http://databank.worldbank.org/data/views/variableselection/selectvariables.aspx?source=Global-Economic-Monitor-(GEM)-Commodities) (Accessed on May 12, 2014). These are all of the flex crops for which data is available.
- 6 Agricultural derivatives have also been promoted as a means of managing risk (Breger Bush 2012). Interestingly, farmers have been very reluctant to sell agricultural derivatives or purchase micro-insurance, leading economists to question their “irrational” behavior (Da Costa 2014, and personal communication with Sarah Martin 2014).
- 7 The investors were promised 100,000 ha of land by the government; they managed to get ahold of about 60,000 ha.
- 8 Looking beyond any specific crop, since 2009 European NGOs and their Southern counterparts have focused on indirect land-use change (ILUC) as a way to criticize the EU's 10 per cent biofuel target. Highlighting various harms from biofuels, NGOs proposed extra criteria to account for ILUC (see above; Levidow, 2013). In 2012 the European Commission proposed a 5 per cent limit on food crops counting towards the EU target, but the proposal was blocked by conflicts among member states, so the NGOs' campaign strategy has not made any tangible difference. Meanwhile other crop-use and land-use changes have been causing harm similar to biofuel use of crops. If techno-scientific developments open up more flexible uses of non-food biomass, then this will further blur any distinction between types and uses of crops—a shift that warrants critical attention.

AGRARIAN JUSTICE PROGRAMME

In recent years, various actors, from big foreign and domestic corporate business and finance to governments, have initiated a large-scale worldwide enclosure of agricultural lands, mostly in the Global South but also elsewhere. This is done for large-scale industrial and industrial agriculture ventures and often packaged as large-scale investment for rural development. But rather than being investment that is going to benefit the majority of rural people, especially the poorest and most vulnerable, this process constitutes a new wave of land and water 'grabbing'. It is a global phenomenon whereby the access, use and right to land and other closely associated natural resources is being taken over - on a large-scale and/or by large-scale capital - resulting in a cascade of negative impacts on rural livelihoods and ecologies, human rights, and local food security.

In this context TNI aims to contribute to strengthening the campaigns by agrarian social movements in order to make them more effective in resisting land and water grabbing; and in developing and advancing alternatives such as land/food/water sovereignty and agro-ecological farming systems.

Layout: Ricardo Santos

Amsterdam, Transnational Institute (TNI)



Agroecology by the Filipino painter Boy Dominguez, 2013

TNI Think Piece Series on Flex Crops & Commodities

The convergence of multiple crises (food, energy and fuel, climate and financial) in the midst of the rise of newer hubs of global capital (BRICS countries and some middle income countries) – and the various responses to these by states and corporations – have paved the way for the emergence of 'flex crops and commodities'. Flex crops and commodities are those that have multiple and/or flexible uses: food, animal feed, fuel, and other commercial-industrial uses. In fact the contemporary global land rush is intertwined with the rise of flex crops and commodities: sites of large-scale land deals tend to be sites of expansion of production of these crops and commodities, e.g. soya, sugarcane, palm oil, corn, cassava, industrial trees. What are the implications of this phenomenon for how scholars, civil society and grassroots social movements undertake 'engaged research', public actions and policy advocacy around agrarian justice issues? The issues are compelling and urgent, yet still largely under-researched. TNI is launching the TNI Think Piece Series on Flex Crops & Commodities to jump-start collaborative action and a critical dialogue between engaged academics, civil society and grassroots movement activists on this issue.

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The **Transnational Institute** was founded in 1974. It is an international network of activist-scholars committed to critical analyses of the global problems of today and tomorrow. TNI seeks to provide intellectual support to those movements concerned to steer the world in a democratic, equitable and environmentally sustainable direction.

www.tni.org

For more information contact:

tni@tni.org

This discussion paper offers a preliminary exploration of the concept and phenomenon of “flex crops and commodities”, building on an earlier and initial analysis and abbreviated idea put forward by some of the authors of this paper. We discuss the dual concepts of the “multiple-ness” and “flexible-ness” of crops and commodities as two distinct but intertwined dimensions of some key crops and commodities. These key crops and commodities are shaped by the changing global context that is itself (re)moulded in large part by the convergence of multiple crises and the various responses to those crises. Building on these dual concepts, we will identify and explain the minimum requirements for crop and commodity flexing. We will also try to typologize the various types of crop and commodity flexing, namely, “real flexing”, “anticipated/speculated flexing”, and “imagined flexing”—to allow for a deeper examination of these interrelated processes. The boundaries between these categories (multiple/flexible, real, anticipated and imagined) are not always clearly demarcated, requiring us to examine the issue of flex crops and commodities in a more interlinked manner. We will focus our initial exploration on the political dynamics of such interactions and intersections, looking into the factors that encourage or discourage, facilitate or hinder maximization of the “multiple-ness” and/or “flexible-ness” of particular crops and commodities. Finally, and as a way of closing, we will outline the implications of these dynamics for how we think of engaged research, public actions and policy advocacy, including a brief discussion of what we call “flex policy narratives” by governments and corporations.

Keywords: **flex crops** **flex commodities** **land grabs**